

aforementioned shaft in housing.

[Claim 5] While doubling with the end face by the side of opening of the aforementioned sleeve the focus of the lens section of an optical instrument characterized by providing the following From a difference with the height position of the aforementioned lens section when the height position of the aforementioned lens section when the focus of the aforementioned lens section is doubled with the oil level of the aforementioned fluid lubrication agent and the focus of the aforementioned lens section suits the end face by the side of opening of the aforementioned sleeve, and the focus of the aforementioned lens section suit the oil level of the aforementioned fluid lubrication agent The oil-level depth measuring method of the fluid lubrication agent in the liquid bearing equipment characterized by measuring the distance from the end face of the aforementioned sleeve to the oil level of the aforementioned fluid lubrication agent. Sleeve. The shaft which formed and inserted the minute annular gap of a predetermined interval between this into this sleeve. So that the aforementioned shaft and the aforementioned sleeve may carry out a rotation drive relatively on the same axle through the fluid lubrication agent with which fluid lubrication agents with which the aforementioned minute annular gap was filled up were consisted of, and the aforementioned minute annular gap was filled up Nothing, And an opening side opens for free passage and forms in the aforementioned minute annular gap the taper-like annular gap where the interval between the aforementioned sleeve and the aforementioned shaft is large at the opening side of the aforementioned sleeve. In the liquid bearing equipment filled up with the aforementioned fluid lubrication agent so that the oil level might be located in the aforementioned taper-like annular gap, it faces measuring the oil-level depth of the aforementioned fluid lubrication agent, and is the lens section.

[Claim 6] The oil-level depth measuring method of the fluid lubrication agent in the liquid bearing equipment according to claim 5 characterized by using a microscope as the aforementioned optical instrument.

[Translation done.]

* NOTICES *

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CLAIMS

[Claim(s)]

[Claim 1] A sleeve and the shaft which formed and inserted the minute annular gap of a predetermined interval between this into this sleeve, In the liquid bearing equipment in which the aforementioned shaft and the aforementioned sleeve carry out a rotation drive relatively on the same axle through the fluid lubrication agent with which fluid lubrication agents with which the aforementioned minute annular gap was filled up were consisted of, and the aforementioned minute annular gap was filled up Liquid bearing equipment characterized by for the opening side having opened for free passage and formed in the aforementioned minute annular gap the taper-like annular gap where the interval between the aforementioned sleeve and the aforementioned shaft is large at the opening side of the aforementioned sleeve, and being filled up with the aforementioned fluid lubrication agent so that the oil level may be located in the aforementioned taper-like annular gap.

[Claim 2] Liquid bearing equipment according to claim 1 characterized by having cut the periphery side of the shaft which countered the inner skin by the side of opening in the aforementioned taper-like annular gap at the aforementioned sleeve in the shape of a taper, and lacking and forming it.

[Claim 3] Liquid bearing equipment according to claim 1 characterized by having cut inner skin in the shape of a taper, and lacking and forming the aforementioned taper-like annular gap in the opening side of the aforementioned sleeve.

[Claim 4] Liquid bearing equipment according to claim 1 to 3 characterized by forming the outer diameter of this lobe in a minor diameter rather than the bore of the aforementioned sleeve, and enabling it to check the aforementioned taper-like annular gap by looking from an opening side while making it project from opening of the aforementioned sleeve and inserting in the aforementioned sleeve, in order to attach the aforementioned shaft in housing.

[Claim 5] While doubling with the end face by the side of opening of the aforementioned sleeve the focus of the lens section of an optical instrument characterized by providing the following From a difference with the height position of the aforementioned lens section when the height position of the aforementioned lens section when the focus of the aforementioned lens section is doubled with the oil level of the aforementioned fluid lubrication agent and the focus of the aforementioned lens section suits the end face by the side of opening of the aforementioned sleeve, and the focus of the aforementioned

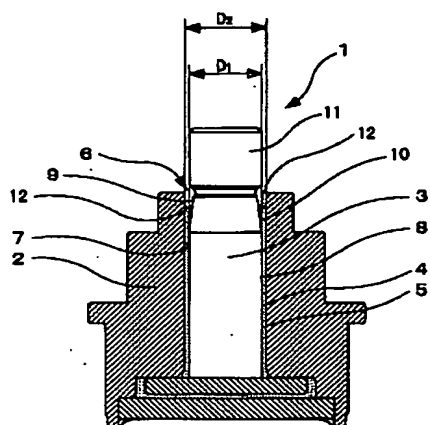
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[Claim 6] The oil-level depth measuring method of the fluid lubrication agent in the liquid bearing equipment according to claim 5 characterized by using a microscope as the aforementioned optical instrument.

[Translation done.]

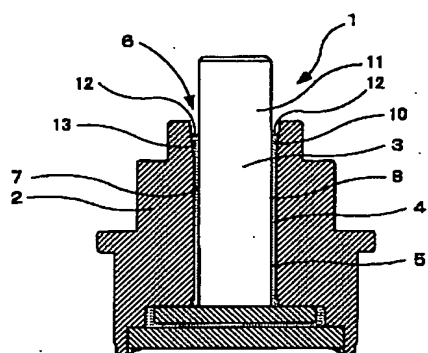
DRAWINGS

[Drawing 1]



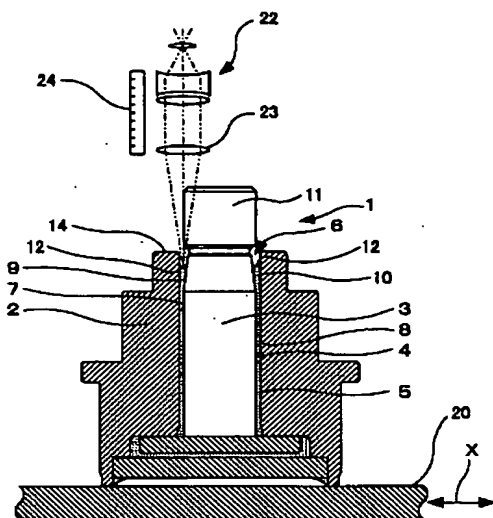
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- 3...シャフト
- 4...微小環状間隙
- 5...潤滑油
- 6...スリーブの開口部
- 9...テーパ面
- 10...テーパ状環状間隙
- 12...キャピラリシール面

[Drawing 2]



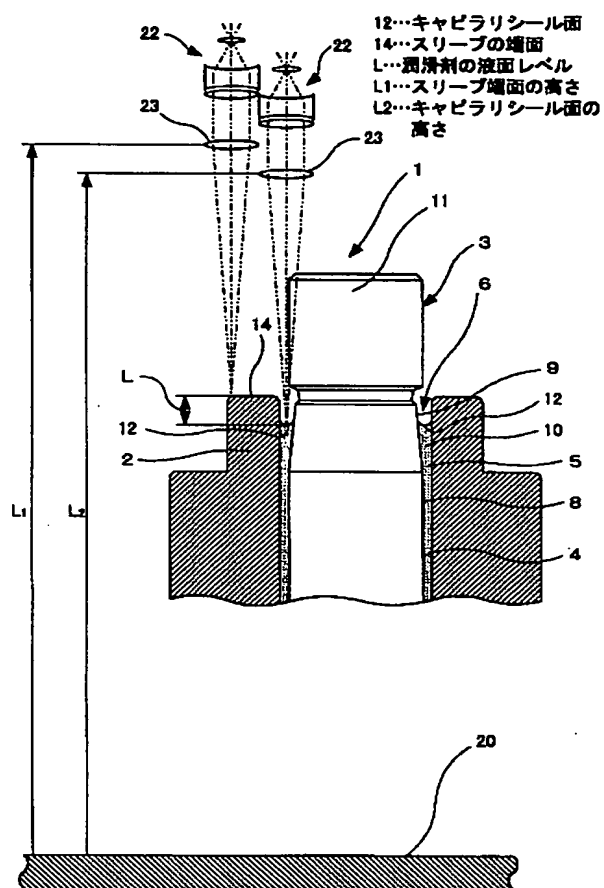
- 2...スリーブ
- 3...シャフト
- 4...微小環状間隙
- 5...潤滑油
- 6...スリーブの開口部
- 10...テーパ状環状間隙
- 12...キャピラリシール面
- 13...テーパ面

[Drawing 3]

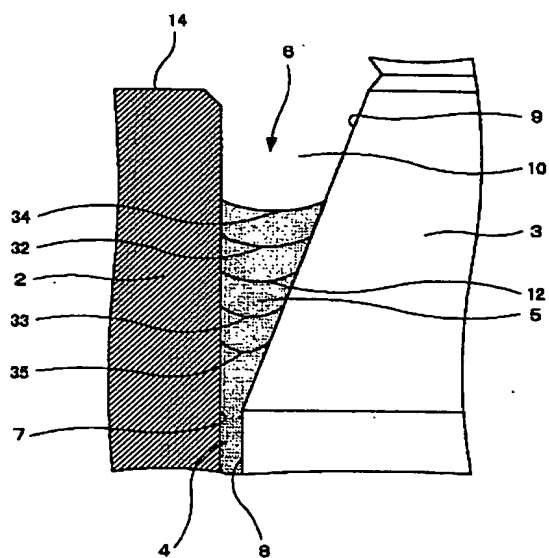


- | | |
|----------------|----------------|
| 2...スリーブ | 12...キャピラリシール面 |
| 3...シャフト | 14...スリーブの端面 |
| 4...微小環状間隙 | 22...顕微鏡 |
| 5...潤滑油 | 23...レンズ部 |
| 10...テーパー状環状間隙 | 24...測長ゲージ |

[Drawing 4]



[Drawing 5]



12...キャピラリシール面
 32...液面レベルの上限
 33...液面レベルの下限

[JP,2002-250341,A]

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[Claim 2] Liquid bearing equipment according to claim 1 characterized by having cut the periphery side of the shaft which countered the inner skin by the side of opening in the aforementioned taper-like annular gap at the aforementioned sleeve in the shape of a taper, and lacking and forming it.

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